

Amendments to the Specification:

Please replace paragraph on page 13 starting at line 1.

Returning to the configuration of Fig. 1, further enhancements can be made to improve other aspects. For example, to maximize cooling efficiency and maintain localized cooling within the detection volume 5, it is beneficial to minimize turbulence and convective flow of fuel in and out of the detection volume 5 during cloud point testing. To minimize turbulence and convective flow of fuel, the cloud point monitoring device can be sheltered by side walls 37 to shield the fuel in the detection volume 5 from large-scale movement of the fuel surrounding the detection volume 5, as shown in Figure 12. The walls 37 could be constructed to be continuous and meet at the top (not shown) to further shield the detection volume 5. In cases where the flow of fuel becomes too restrictive to place the cloud point monitoring device within the confines of the walls 37, an alternative is to turn the detection wall unit 6 on its side, as shown in Figs. 13 and 14. As a result, the detection volume 5 is bounded on two consecutive sides by the detection wall unit 6, whereby the detection wall unit 6 protects the detection volume 5 from the effects of the flow of fuel. The top and remaining two sides are open to the fuel to fill the detection volume 5. In this manner, the change-out of fuel in the detection volume 5 is somewhat protected from large-scale movement of the fuel surrounding the detection volume 5. To provide further enhancement of the detection volume 5 of the configuration shown in Figs. 13-14, an additional thermal conductive sidewall surface 41 can be erected as part of the thermal conductive surface 2, as shown in Figs. 15-16. In this manner, the detection volume 5 will be bounded below and on one side by thermal conductive surfaces 2, 41. The additional thermal conductive sidewall surface 41 serves as an additional wax crystal growth site to congregate more wax crystals into the detection volume 5, thus improving detection sensitivity. Finally, even greater sensitivity can be gained by orienting the emitting fiber optic cable 7 44 towards the side cold surface 41, as shown in Figs. 17-18, hence directing a greater portion of light into an area with a high concentration of wax crystals. By so doing, the scattering efficiency is improved, leading to greater amount of scattered light to be received. This can be done in all disclosed configurations of the cloud point monitoring device, whereby placing the emitter optic as close as possible to the thermal conductive surface 2 will increase sensitivity of the cloud point monitoring device.